

OPERATIONS BULLETIN 98-002

Subject: Icing of Hawker Upper Static Plates

Background: There was a recent occurrence in a Hawker of failed static plate heat while the aircraft was flying in ice crystals at high altitude in IMC, which resulted in ice on the plate(s) and erroneous altimeter and vertical speed indications. The heat was lost due to a blown fuse, not accessible to the crew.

When static plate heat is lost, icing on the plate(s) causes a significant difference between the pilot's and co-pilot's altimeter and vertical speed indications which, under the "right" circumstances, could lead to crew disorientation, aircraft upset, or worse.

Differences in altitude of up to 800 feet and vertical velocities of 400 FPM up (pilot) Vs 800 FPM down (co-pilot) were noted. There was no correlation between the pilot's and co-pilot's instruments.

Crews must be aware of the following:

- There is *no* indication in the cockpit that the static plates are or are not being heated.
- The autopilot will follow the erroneous indications of the system to which it is coupled.
- Icing of the static plates *has occurred* at high altitude in cold temperatures (FL310, -37°C) without an "ice detected" annunciation.
- If a difference is noted between the pilot's and co-pilot's altimeters and vertical velocity indicators with no correlation between systems, suspect that the static plate heat has failed. Immediately disconnect the autopilot, monitor pitch attitude, refer to the standby altimeter for altitude reference, and advise ATC of the situation. If possible, get out of IMC conditions and/or fly in air with an OAT of +5° or warmer, which will prevent further icing, and melt any ice present.
- The power for both left and right static plates is from the PS2 bus. This offers no redundant source of power for static plate heat should the PS2 bus fail. If PS2 power is lost and the aircraft is in cloud with an air temperature colder than +5°C or where icing is likely to occur, prepare for possible static plate icing and erroneous altimeter and vertical velocity indications.
- Remember that standby altimeter corrections can be large, on the order of 500 feet. Use the "Static Position Error Correction to Standby Altimeter" chart (figure 7-4) in CFM Volume II to correct the indicated altitude.
- The pitot isolation valve may be used in the case of unreliable airspeed (tab E11 in the cockpit Emergency Checklist), but has no effect on static instruments (primary altimeters and vertical velocity indicators).

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